

SINGLE DENTAL IMPLANT - A MODERN ALTERNATIVE FOR ORAL REHABILITATION

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Abstract: This article reveals the benefits of dental implant prosthesis insertion in terminal edentations. There are presented the stages of insertion of the implant and the benefits of this type of single implant prosthesis in clinical situations in which, many times patients often remain without dental restorations. This causes the appearance of occlusal imbalances but also of those at the temporomandibular joint (TMJ) level.

Cuvinte cheie: implant dentar, edentație terminală

Rezumat: Prezentul articol relevă beneficiile inserției unui implant dentar în protezarea unei edentații terminale. Sunt prezentate etapele de inserție a implantului și beneficiile acestui tip de protezare pe implant unidentar, în situații clinice în care de multe ori, pacienții rămân neprotezați, ceea ce determină în timp apariția dezechilibrelor ocluzale, dar și a celor de la nivelul articulației temporo-mandibulare.

INTRODUCTION

Once appeared, the terminal edentations induce a real discomfort in patients; these often avoiding chewing on that side of the dental arches. This draws over time, occlusal imbalances which, if are not prosthetically restored, produce irreversible changes in the structure of occlusion and of the TMJ.(1,2) Most of the times, the patients ignore this type of edentation, mastication becomes unilateral, the limiting teeth or the antagonists egress or migrate.(3)

Prosthetic possibilities in the clinical situations of the uniterminal edentations are either the classic ones, by applying prosthetics or the modern alternatives through dental implant restoration. Most patients, especially those who are edentulous uniterminally from a young age, remain as such because they reject the idea of wearing dentures.(1) Of course, the advantages of insertion and prosthesis on dental implants are unquestionably higher than wearing a mobile or movable prosthetic alternative. Maybe the only impediment to the modern treatment options are the socio-economic considerations or the fear of surgery. This fear cannot be and is not justified today because modern techniques of insertion of dental implants calls for a minimum wounds, often lower than the tooth extraction.(4,5,6)

CASE REPORT

Patient aged 26 years old presented in our specialized clinic three years ago, complaining about pain in the left maxillary arch.

We conducted a series of dental treatments that were necessary for the complete oral rehabilitation of the patient. In the maxillary arch, the treatment consisted of the endodontic therapy of teeth 1.7., 1.6., 1.5., 1.4., 2.4, 2.5, 2.6, in coronal reconstructions with composite fillings in teeth 1.7, 1.5, 1.4, 2.4., 2.5., 1.2. but also in the development of metal-ceramic crowns on the teeth 1.6, 2.6. Due to the large periapical and periradicular process, tooth 2.7. was extracted.

Regarding the mandibular arch, we performed the endodontic treatment of tooth 4.5., which was reconstituted with

coronary a metal-ceramic crown. There has been performed a surgical intervention for the removal of the periapical granulomas of the teeth 4.6, 3.6, as they did not answer favourably to the conservative endodontic treatment. We reconstructed 3.5, 3.7. and 4.4. Tooth 4.7, due to the interradicular and periapical infectious processes, needed to be removed from the mandibular arch. On 3.6, 4.6 we made ceramic crowns

5 months after the extraction of tooth 4.7, we radiographically checked the crest height and bone density in order to insert a self-tapping dental implant (figure no. 1).(7) To ease insertion, site crown 4.6. was cemented temporarily, removed during surgery and permanently cemented after suturing and healing.

Figure no. 1. Panoramic radiograph image 5 months after the lower mandibular right second molar extraction



We checked with special patterns the crest height and the distance up to the intramandibular canal of the inferior alveolar nerve canal and we decided upon the insertion of an implant with a diameter of 3.6 mm and a height of 10 mm

The surgical insertion stages of titanium implants were: plexus anesthesia at the insertion site, incision of mucosa, preparation with special milling from the implants kit, tapping, implant insertion on the dynamometric key stem, intra-osseous screwing up to the bone, the implant protection with a cover screw and suture. These stages of insertion of the implant are shown in the slide show in figures no. 2,3 and 4:

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CLINICAL ASPECTS

Figure no. 2. Stages in implant dentistry: a) incision of mucosa, b) desertion mucosa, c) preparation of the implant insertion site

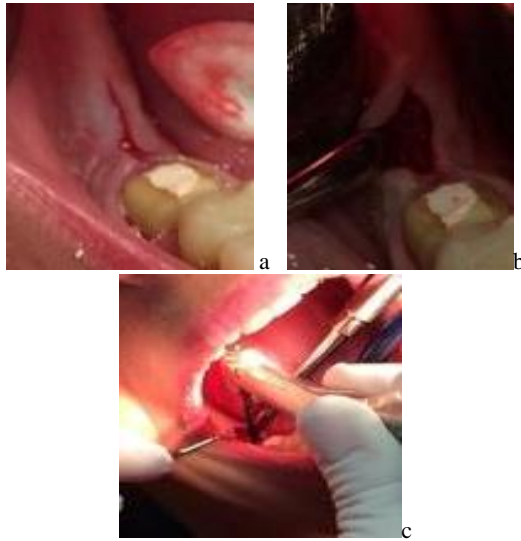


Figure no. 3. Steps in implant insertion: a) the place of insertion, b) stem implant with torque wrench adapter, c) the preparation of the intraosseous implant site

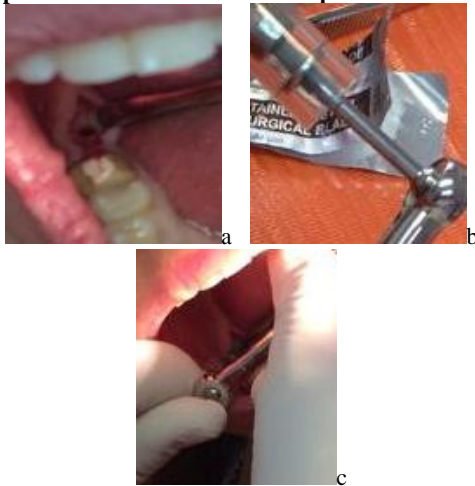
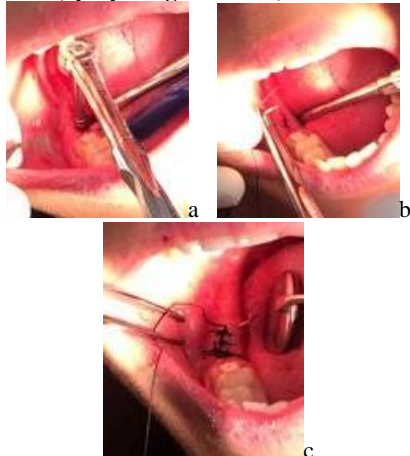


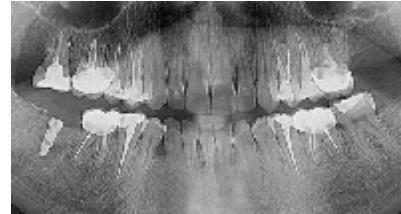
Figure no. 4. Final steps in the insertion of an implant: a) screw implant b) preparing mucosa c) suture of mucosa



Uncomplicated postoperative healing occurred under the action of specific medications administered, such as

antibiotics and anti-inflammatory drugs and sutures were removed on the seventh postoperative day. We made a check-up panoramic radiograph of the implant position, which is shown in figure no. 5:

Figure no. 5. The panoramic radiograph image after implant insertion



4 months after surgery during which there occurred the osseointegration of implant, surgical times to achieve implant overdenture followed: mucosal anesthesia at implant insertion, small incision for removal of the implant screw loose in his head, applying a healing cap for 7-10 days. Prosthetic times were: impression of the prosthetic field in standard spoon, unscrewing the cap of healing, impression and transfer with transfer abutment implant in laboratory in individual spoon, healing cap screwing until the laboratory stage was ready. Then, the healing cap was removed, we screwed the abutment with 28-30 Nm torque wrench until we cemented the provisional crown abutment for 7-10 days during which we checked its integrity on the arch both statically and dynamically and periodontally, then we made the final cementation. At the end of treatment, the patient was satisfied of this chosen type of prosthesis and resumed chewing on the right side of the arch, chewing that up to this prosthesis was possible only on left side because the patient avoided the unilateral mastication on the right

CONCLUSIONS

1. The clinical situations of unilateral edentation, dental implant is a simple, accessible option with good clinical outcomes.
2. Overdenture implant restores multiple and stable dental contacts.
3. Insertion of an implant preserves the biological tissues and maintains bone thickness and height otherwise, it withdraws over time.
4. Through prosthesis, the unilateral occlusion stabilizes and the TMJ joint is protected, no longer suffering morpho-functional changes.
5. Single implant brings real benefits to the patient and is a modern alternative of restoring the edentation, which would otherwise remain toothless for a long period of time.

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